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THE SUPPOSED FOSSIL OPHIOGLOSSUM

T. D. A. COCKERELL

In TORREYA, vol. 24, p. 10, I described a supposed fossil *Ophioglossum* from the Eocene of Wyoming, naming it *O. hastatiforme*. The specific name had reference to the resemblance to a spear-head, not to the conventional term hastate. In TORREYA of the same year, p. 49, Dr. E. W. Berry stated that the plant was by no means an *Ophioglossum*, but was in fact a *Danaea*, belonging to the species *D. coloradensis* Knowlton, described from the Green River shales of Colorado. This led to a lengthy correspondence with Dr. Knowlton, Dr. W. R. Maxon and Dr. Marshall A. Howe, out of which certain results have emerged, showing that the whole matter needs reconsideration. The facts and probabilities are as follows:

- (1) The fossil is assuredly not an *Ophioglossum*.
- (2) Still less is it a *Danaea*. Dr. Maxon kindly loaned me excellent *Danaea* material for comparison.
- (3) The fragment described by Knowlton (1923) as *Danaea coloradensis* is apparently a different thing, and in the absence of proof to the contrary, is to be retained in *Danaea*. I have not seen it.

- (4) Lester Ward (*Glimpses of the Cosmos*, iv, 1915, p. 150) described a plant from the Laramie near Glendive, Montana, calling it *Xantholithes propheticus*. He doubtfully referred it to the Ophioglossaceae.
- (5) This *Xantholithes* is to the U. S. National Museum, and was recognized by Dr. Knowlton as similar to my fossil. There can be no doubt, I believe, that it is congeneric, and hence *Ophioglossum hastatiforme* becomes *Xantholithes hastatiformis*.
- (6) Ward's material shows that the plant is unlike anything living. Many efforts have been made both by Ward and Knowlton, to get it classified, but so far without tangible result. I concluded, after examining a good figure loaned by Dr. Knowlton, that it was probably an alga. It was accordingly sent to Dr. Howe, who writes me: "I had that strange fossil for two or three weeks, but did not have the nerve to say what it might be. . . . The cell structure suggested at first that of the genus *Caloglossa* of the family Delesseriaceae of the Red Algae, but I did not see how any organism of that group could show no indication of branching, unless radiating from a center." My impression was that it did radiate from a center, and my own feeling still is that it is an alga, but of an extinct family (*Xantholithaceae*). However, some one should offer a medal for a decisive solution, acceptable to botanists generally! Suppose *Marsilea* had become extinct, and was known only by some rather poor impressions in the rocks, should we be able to form a reasonable opinion about its affinities? It would present another such mystery.

PROCEEDINGS OF THE CLUB

MEETING OF OCTOBER 28, 1925

This meeting was held at the New York Botanical Garden. The program was as follows:

Dr. H. A. Gleason exhibited specimens and discussed the structure of two new species of *Styracaceae* from British Guiana. The first of these is a *Lissocarpa*, differing in several respects from *L. Benthami* Gürke, the only species hitherto known. The